

MAR 22 2002

REMARKS

The drawings were objected to as failing to comply with 37 CFR 1.84(p)(5) for including a reference sign not mentioned in the description. The Specification was objected to for including element numbers in the abstract. Claims 1-17 were rejected under 35 USC 103(a) as being unpatentable over Lawlyes (US 6,309,224) in view of Denzene (US 6,219,258 B1). The present amendments address the objections to the drawings.

Objections to the Drawings

The drawings were objected to as failing to comply with 37 CFR 1.84(p)(5) for including a reference sign not mentioned in the description. Specifically, the office action noted that a reference to "reference number 40" was not discovered in the specification. As the Examiner suspected, the reference to passivation material 38 on page 4 was incorrectly marked as 38 as opposed to the reference 40 as indicated in the drawings. The Applicant has therefore amended paragraph 18 on page 4 to correctly reference the passivation material 40. The Applicant thereby submits that there is no longer grounds for objection to the drawings and that the drawings are therefore in a condition for allowance.

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Objections to the Specification

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The abstract of the disclosure was objected to because element numbers designating those elements described in the specification were deemed "not necessary". The office action referenced MPEP 608.01(b) as a source for its rejection. The Applicant respectfully traverses this objection. Although the number references may indeed be unnecessary and not required for an abstract filed in the United States, MPEP 608.01(b) provides no legal basis for objecting to their presence. The Applicant respectfully requests, therefore, that the objection to the abstract be removed.

Claims 1-17 rejected under 35 USC 103(a)

Claims 1-17 were rejected under 35 USC 103(a) as being unpatentable over Lawlyes (US 6,309,224) in view of Denzene (US 6,219,258 B1). Specifically, the office action asserts that Lawlyes et al. teaches a main circuit board with a main assembly housing and a plurality of connectors. The office action further asserts that Denzene teaches a pre-assembled circuit assembly, a partitioned circuit element, mounted within a partitioned circuit housing, and a plurality of connectors. The office action therein asserts that it would be obvious to one skilled in the art to include a partitioned circuit assembly to the main assembly board and

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housing apparatus, including the use of a main assembly port to improve the receiving and securing of the partitioned circuit board.

The Applicant respectfully traverses the Examiner's rejections to claims 8-17 (noting, of course that claims 1-7 gave been cancelled). The Applicant traverses the Examiner's rejections on several grounds. The Applicant notes that *In re Lueders* (111 F.3d 1569 Fed Cir 1997) requires the Examiner to provide sufficient reasoning supporting an obviousness rejection. The Examiner has asserted mere general knowledge to support an obviousness rejection based on the use of a main assembly port. Far more significant, however, are the Applicant's additional grounds for traverse. The Applicant points out first that the Examiner has provided no evidence of motivation to combine in either the Lawlyes et al or the Denzene patent. Furthermore, the Applicant respectfully points out that the Denzene patent represents non-analogous art. The Denzene patent teaches a circuit assembly for use on outdoor telecommunications boxes. Although these boxes do experience environmental conditions, in general they do not come anywhere near the conditions experienced by an engine controller as claimed by the present invention. The present invention utilizes a partitioned circuit assembly to address an engine controller used in a high vibrational, high temperature, and highly corrosive environment. Neither the Lawlyes et al patent nor the Denzene patent, either alone or in combination, address or teach such a structure and therefore are inappropriate to use as prior art. Finally, the Applicant traverses the Examiner's contention that the limitation of a main assembly port is simply a matter of obvious "design choice". The structure claimed in the present application, including the main assembly port, is directed towards enabling the use of a portioned circuit assembly in the harsh environment normally associated with engine controllers. The main port assembly is not simply a "design choice", but is rather a significant novel aspect of the claimed engine controller. The Applicant notes, that no support within the listed prior art supports the contention that the main assembly port is obvious when used on an engine controller.

Claims 2, 5, 9, 12, and 16 rejected under 35 USC 103(a)

Claims 2, 5, 9, 12, and 16 were rejected under 35 USC 103(a) as being unpatentable over Lawlyes (US 6,309,224) in view of Denzene (US 6,219,258 B1). The office action acknowledges that Denzene does not teach a press-assembled partition further including a heat sink, nor a heat sink attached using thermally conductive material. The office action states, however, that "the applicant is merely attempting to remedy a common problem within the electronics industry, and thus not providing an improvement on an existing

product". The Applicant respectfully traverses this rejection as well. Incorporating all the previous objections to the 35 USC 103(a) rejections, the Applicant would like to note that the present application has not simply claimed a heat sink to cool an electronic apparatus as asserted by the examiner. The Applicant calls the Examiner's attention to the fact that the application has claimed an individual heat sink associated with each partitioned circuit portion of an engine controller. Present engine controllers commonly utilize a single heat sink arrangement to cool their electronics. By utilizing independent cooling on the partitioned circuit portions of the engine controller, specific heat generating components can be specifically addressed while heat from such components can be isolated from the central controller (see paragraph 17, page 4). This provides a novel utility not associated with present engine controller designs. Furthermore, as previously mentioned, the Applicant asserts that insufficient reasoning has been provided to support an obviousness rejection. No structural comparison between prior art engine controller heat sink designs and those claimed by the present invention were asserted or discussed by the office action.

Claims 3, 10, 4, 11, 7 and 14 rejected under 35 USC 103(a)

Claims 3 and 10 were rejected under 35 USC 103(a) as previously stated. The office action asserts that Denzene teaches a partitioned circuit assembly including a passivation material positioned within the partitioned circuit housing. The Applicant reasserts his position that the Lawlyes et al. nor the Denzene patent, either alone or in combination teach the present invention. The Applicant further incorporates by reference all the previous objections to the use of Denzene and Lawlyes et al as prior art references.

Claims 4 and 11 were rejected under 35 USC 103(a) as previously stated. The office action asserts that Denzene teaches a seal element such that the partitioned circuit assembly becomes sealed to the main assembly housing after insertion. The Applicant respectfully traverses this rejection. The seal element 110 disclosed by the Denzene patent does not, in fact, seal the portioned assembly to the main assembly as claimed by the present invention. Instead, the Denzene patent teaches the use of a seal element 110 to seal the connectors only. Its usage is strictly to protect the electrical connections, not seal the portioned assembly to the main assembly as claimed by the present invention. The Denzene patent uses a conformal coating (see col. 7, lines 8-10) to seal the partitioned circuit, but do not attempt to seal the circuit to the main assembly. The Applicant furthermore incorporates by reference his previous objections to the 35 USC 103(a) rejections.

Finally, the office action rejected claims 7 and 14 under 35 USC 103(a). The office action noted that Lawlyes teaches a circuit assembly having one communication port therein. The Applicant respectfully traverses the Examiner's rejection. The Applicant notes that no motivation to combine was referenced from either prior art patent nor was proper evidence provided as to support the combination of these two references to result in an engine controller having a partitioned circuit assembly and a communications port. The Applicant, therefore, respectfully requests the rejections to the aforementioned claims be removed.

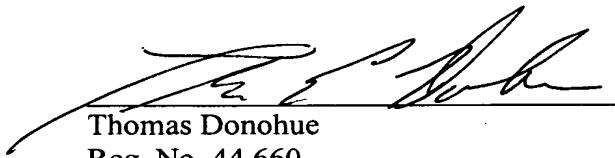
In light of the above explanations and amendments to clarify the Applicants submission, the Applicant respectfully requests the Examiner to withdraw the rejections of claims 8-17.

CONCLUSION

The Applicant would like to thank the Examiner for his assistance. In light of the above amendments and remarks, Applicant submits that all objections and rejections are now overcome. Applicant has added no new material to the application by these amendments. The application is now in condition for allowance and expeditious notice thereof is earnestly solicited.

Should the Examiner have any questions or comments that would place the application in better condition for allowance, the Examiner is respectfully requested to call the undersigned attorney.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE**IN THE SPECIFICATION**

Please substitute Paragraph 18 on Page 4 With The Following:

The partitioned circuit assembly 14 may also include passivation material 38 40 surrounding the partitioned circuit element 22. This is particularly useful if the partitioned circuit assembly 14 is intended for use in a hostile environment. Wires 42 such as wirebonds, may be used to place the partitioned circuit element 22 in communication with the plurality of connectors 26. An exploded view of the partitioned circuit assembly 14 is illustrated in Figure 4 for further reference.

IN THE CLAIMS

Claims 1 through 7 have been canceled.